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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,938	12/12/2003	Lee W. Atkinson	200300687-1	1470

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EXAMINER	
PHAM, THOMAS K	
ART UNIT	**PAPER NUMBER**
2121	

DATE MAILED: 01/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/734,938	ATKINSON ET AL.	
	Examiner	Art Unit	
	Thomas K. Pham	2121	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *12 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

First Action on the Merits

1. Claims 1-20 of U.S. Application 10/734,938 filed on 12/12/2003 are presented for examination.

Quotations of U.S. Code Title 35

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claim Rejections - 35 USC § 102

6. Claims 1, 5, 6, 12, 14-16, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,812,860 ("Horden").

Regarding claim 1

Horden teaches a system, comprising:

- power management logic (see FIG. 1, "state machine 6");
- an electrical load coupled to the power management logic and configurable to operate in accordance with any of a plurality of power states (see Col. 3 lines 48-65);
- wherein, if an operating voltage for the system is between two thresholds, the power management logic forces the electrical load to operate in a reduced power state (see Col. 3 line 66 to Col. 4 line 11).

Regarding claim 12

Horden teaches a system, comprising:

- an electrical load configurable to operate in accordance with any of a plurality of power states (see Col. 3 lines 48-65); and
- power management means coupled to the load for forcing the system to operate in a reduced power state when an operating voltage is between two voltage levels (see Col. 3 line 66 to Col. 4 line 11).

Regarding claim 16

Horden teaches a power management logic unit configured to operate in a system, comprising:

- control logic that receives first and second signals (see Col. 3 lines 35-47), determines whether an operating voltage is between first and second reference voltages based on the

first and second signals and, if so, causes the system to operate in a non-programmable, reduced performance mode (see Col. 3 line 66 to Col. 4 line 11).

Regarding claim 18

Horden teaches a method, comprising:

- comparing an operating voltage to a first reference voltage and to a second reference voltage (see Col. 3 lines 48-65); and
- when the operating voltage is between the two reference voltages, requiring a system to operate in a less than full performance mode (see Col. 3 line 66 to Col. 4 line 11).

Regarding claim 5

Horden teaches wherein the system comprises a computer (see FIG. 1).

Regarding claim 6

Horden teaches the electrical load comprises a CPU coupled to the power management logic and the reduced power state comprises a reduced average clock frequency of a CPU clock (see Col. 3 lines 48-65).

Regarding claim 14

Horden teaches the means for forcing the system to operate in the reduced power state comprises means for reducing a clock frequency associated with a CPU in the system (see Col. 3 lines 48-65).

Regarding claim 15

Horden teaches means for determining whether the operating voltage is between the two voltage levels (see Col. 4 lines 12-23).

Claim Rejections - 35 USC § 103

7. Claims 2-4, 9-11, 13, 17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horden in view of U.S. Patent No. 6,690,652 ("Sadri").

Regarding claim 2

Horden does not specifically teach a pair of comparators coupling the operating voltage to inputs of the power management logic, each comparator having a reference voltage different from each other.

However, Sadri teaches a power control system with a pair of comparators for comparing operating voltage to the upper threshold and the lower threshold (see Col. 4 lines 39-43) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the pair of comparators of Sadri with the power management system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

Regarding claim 3

Horden an example of a first of the two thresholds is about 2VDC and the other threshold is about 2.75VDC (see Col. 4 lines 1-11).

It should be noted that the threshold values set forth (e.g. 15.5 VDC and 14.5 VDC) is given very little patentable weight. In the absence of any new or unexpected results, the threshold values are considered to be set to any values operate on a specific device.

Regarding claim 4

Horden teaches the power management logic determines whether the operating voltage is between the reference voltages (see Col. 4 lines 12-23).

Regarding claim 9

Horden does not teach if the power management logic determines the operating voltage is above both of the two thresholds, the power management logic permits the system to operate in any one of a plurality of power states.

However, Sadri teaches if the power management logic determines the operating voltage is above both of the two thresholds, the power management logic permits the system to operate in any one of a plurality of power states (see Col. 4 lines 35-37) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the power management logic of Sadri with the power management system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

Regarding claim 10

Horden teaches the power states are programmable (see Col. 4 lines 42-54).

Regarding claim 11

Horden does not teach if the power management logic determines the operating voltage is below both of the two thresholds, the power management logic causes the system to operate in any one of a plurality of power states.

However, Sadri teaches if the power management logic determines the operating voltage is below both of the two thresholds, the power management logic permits the system to operate

in any one of a plurality of power states (see Col. 4 lines 33-35) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the power management logic of Sadri with the power management system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

Regarding claim 13

Horden does not teach means for permitting the system to operate in any of a plurality of power states when the operating voltage is not between the two voltage levels.

However, Sadri teaches permitting the system to operate in any of a plurality of power states when the operating voltage is not between the two voltage levels (see Col. 4 lines 33-37) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the power management logic of Sadri with the power management system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

Regarding claim 17

Horden does not teach the control logic determines whether the operating voltage is not between the first and second reference voltages and, if so, permits the system to operate in a mode that requires more power than the reduced performance mode.

However, Sadri teaches the control logic determines whether the operating voltage is not between the first and second reference voltages and, if so, permits the system to operate in a mode that requires more power than the reduced performance mode (see Col. 4 lines 35-37) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the power management logic of Sadri with the power management system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

Regarding claim 20

Horden teaches the reference voltages comprise a first reference voltage and a second reference voltage and the first reference voltage is higher than the second reference voltage (see Col. 4 lines 12-23).

Horden does not teach permitting the system to operate in any one of a plurality of programmable modes only if the operating voltage is above the first reference voltage or below the second reference voltage.

However, Sadri teaches permitting the system to operate in any one of a plurality of programmable modes only if the operating voltage is above the first reference voltage or below the second reference voltage (see Col. 4 lines 33-37) for the purpose of minimizing device power consumption by optimizing power usage in the device (see Col. 4 lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the power management logic of Sadri with the power management

system of Horden because it would provide for the purpose of minimizing device power consumption by optimizing power usage in the device.

8. Claims 7, 8 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horden in view of U.S. Patent No. 5,991,883 ("Atkinson").

Regarding claim 7

Horden does not teach the electrical load comprises a display and the reduced power state comprises a dimmed display.

However, Atkinson teaches a system for power conservation in a portable computer system including a dimmed LCD display (see Col. 2 lines 55-63) for the purpose of reducing the power of the display when high performance is not required (see Col. 2 lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the display system of Atkinson with the system of Horden for the purpose of reducing the power of the display when high performance is not required.

Regarding claim 8

Horden does not specifically teach if the power management logic determines the operating voltage is above both of the two thresholds, the power management logic permits the system to operate in a full performance power state.

However, Arkison teaches a video controller set the core voltage to operate in full performance power state when the operating voltage is above certain voltage levels (see Col. 10 lines 17-26) for the purpose of reducing the power of the display when high performance is not required (see Col. 2 lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the display system of Atkinson with the system of Horden for the purpose of reducing the power of a device when high performance is not required.

Regarding claim 19

Horden teaches the reference voltages comprise a first reference voltage and a second reference voltage and the first reference voltage is higher than the second reference voltage (see Col. 4 lines 12-23).

Horden does not teach permitting the system to operate in a full performance mode when operating voltage is above the first reference voltage or below the second reference voltage.

However, Arkison teaches a video controller set the core voltage to operate in full performance power state when the operating voltage is above certain voltage levels (see Col. 10 lines 17-26) for the purpose of reducing the power of the display when high performance is not required (see Col. 2 lines 64-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the display system of Atkinson with the system of Horden for the purpose of reducing the power of a device when high performance is not required.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to examiner *Thomas Pham*; whose telephone number is (571) 272-3689, Monday - Thursday from 6:30 AM - 5:00 PM EST or contact Supervisor *Mr. Anthony Knight* at (571) 272-3687.

Any response to this office action should be mailed to: **Commissioner for Patents, P.O. Box 1450, Alexandria VA 22313-1450.** Responses may also be faxed to the **official fax number (571) 273-8300.**

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thomas Pham
Patent Examiner

January 23, 2006